

What is claimed is:

1. A method in a data processing system for replacing data transmission request expressions, the method comprising the steps of:

5 receiving a data transmission request expression of a first type from a requestor, the data transmission request expression corresponding to data identified by a data transmission request expression of a second type;

replacing the data transmission request expression of the first type with a replacement data transmission request expression of the second type;

10 retrieving the data using the replacement data transmission request expression; and

sending the retrieved data to the requestor.

2. The method of claim 1, further comprising the steps of:

15 determining whether the retrieved data comprises a data transmission request expression of the second type; and

when the retrieved data comprises a data transmission request expression of the second type, replacing the data transmission request expression in the retrieved data with a replacement data transmission request expression of the first type.

20 3. The method of claim 1, further comprising the steps of:

determining whether the retrieved data comprises an embedded data transmission request expression;

when the retrieved data comprises the embedded data transmission request

25 expression, determining whether the data transmission request expression is supported by the requestor; and

when data transmission request expression in the retrieved data is not supported by the requestor, replacing the data transmission request expression in the retrieved data with a replacement data transmission request expression supported by the requestor.

4. The method of claim 1, further comprising the step of:
identifying the replacement data transmission request expression as an entry
in a lookup table corresponding to the data transmission request expression of the
first type.

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5. The method of claim 1, further comprising the steps of:
computing a hash value based on the data transmission request expression of
the first type, and
using the hash value to identify the replacement data transmission request
10 expression as an entry in a lookup table corresponding to the data transmission
request expression of the first type.

6. The method of claim 1, further comprising the steps of:
determining whether the retrieved data comprises an embedded data
15 transmission request expression;
when the retrieved data comprises the embedded data transmission request
expression, determining whether a replacement data transmission request
expression exists as an entry in a lookup table corresponding to the data
transmission request expression in the retrieved data;
20 when no replacement data transmission request expression exists in the
lookup table, generating a replacement data transmission request expression;
storing the generated replacement data transmission request expression in
the lookup table in association with the data transmission request expression in the
retrieved data.

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7. The method of claim 1, wherein the data transmission request
expression is a first uniform resource locator (URL) having a first length and the
replacement data transmission request expression is a second uniform resource
locator (URL) having a second length.

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8. The method of claim 1, wherein the data is a web page.

9. A method in a data processing system for replacing data transmission request expressions, the method comprising the steps of:

retrieving data with a data transmission request expression of a first type for sending to a requestor;

5 replacing the data transmission request expression in the retrieved data with a replacement data transmission request expression of a second type; and

sending the retrieved data with the replacement data transmission request expression to the requestor.

10 10. The method of claim 9, further comprising the steps of:

computing a hash value based on the data transmission request expression of the first type, and

15 using the hash value to identify the replacement data transmission request expression as an entry in a lookup table corresponding to the data transmission request expression of the first type.

11. The method of claim 9, further comprising the steps of:

determining whether a replacement data transmission request expression exists as an entry in a lookup table corresponding to the data transmission request expression in the retrieved data;

20 when no replacement data transmission request expression exists in the lookup table, generating a replacement data transmission request expression;

25 storing the generated replacement data transmission request expression in the lookup table in association with the data transmission request expression in the retrieved data.

12. The method of claim 9, wherein the data transmission request expression is a first uniform resource locator (URL) having a first length and the replacement data transmission request expression is a second uniform resource locator (URL) having a second length.

30 13. The method of claim 9, wherein the data is a web page.

14. A method in a data processing system having a web server with a web page, the method comprising the steps performed by the web server of:

receiving a first URL of a first type from a client, the first URL corresponding to the web page identified by a URL of a second type;

5 replacing the first URL with a replacement URL of the second type;

retrieving the web page using the replacement URL; and

sending the retrieved web page to the client.

15. A computer-readable medium containing instructions that cause a data processing system to perform a method for replacing data transmission request expressions, the method comprising the steps of:

receiving a data transmission request expression of a first type from a requestor, the data transmission request expression corresponding to data identified by a data transmission request expression of a second type;

15 replacing the data transmission request expression of the first type with a replacement data transmission request expression of the second type;

retrieving the data using the replacement data transmission request expression; and

20 sending the retrieved data to the requestor.

16. The computer-readable medium of claim 15, further comprising the steps of:

determining whether the retrieved data comprises a data transmission request expression of the second type; and

25 when the retrieved data comprises a data transmission request expression of the second type, replacing the data transmission request expression in the retrieved data with a replacement data transmission request expression of the first type.

17. The computer-readable medium of claim 15, further comprising the steps of:

determining whether the retrieved data comprises an embedded data transmission request expression;

5 when the retrieved data comprises a data transmission request expression, determining whether the data transmission request expression is supported by the requestor; and

10 when data transmission request expression in the retrieved data is not supported by the requestor, replacing the data transmission request expression in the retrieved data with a replacement data transmission request expression supported by the requestor.

18. The computer-readable medium of claim 15, further comprising the step of:

15 identifying the replacement data transmission request expression as an entry in a lookup table corresponding to the data transmission request expression of the first type.

19. The computer-readable medium of claim 15, further comprising the steps of:

20 computing a hash value based on the data transmission request expression of the first type, and

25 using the hash value to identify the replacement data transmission request expression as an entry in a lookup table corresponding to the data transmission request expression of the first type.

20. The computer-readable medium of claim 15, further comprising the steps of:

determining whether the retrieved data comprises an embedded data transmission request expression;

5 when the retrieved data comprises an embedded data transmission request expression, determining whether a replacement data transmission request expression exists as an entry in a lookup table corresponding to the data transmission request expression in the retrieved data;

10 when no replacement data transmission request expression exists in the lookup table, generating a replacement data transmission request expression;

15 storing the generated replacement data transmission request expression in the lookup table in association with the data transmission request expression in the retrieved data.

21. The computer-readable medium of claim 15, wherein the data transmission request expression is a first uniform resource locator (URL) having a first length and the replacement data transmission request expression is a second uniform resource locator (URL) having a second length.

20. 22. The computer-readable medium of claim 15, wherein the data is a web page.

23. A computer-readable medium containing instructions that cause a data processing system to perform a method for replacing data transmission request expressions, the method comprising the steps of:

retrieving data with a data transmission request expression of a first type for sending to a requestor;

replacing the data transmission request expression in the retrieved data with a replacement data transmission request expression of a second type; and

30 sending the retrieved data with the replacement data transmission request expression to the requestor.

24. The computer-readable medium of claim 23, further comprising the steps of:

computing a hash value based on the data transmission request expression of the first type, and

5 using the hash value to identify the replacement data transmission request expression as an entry in a lookup table corresponding to the data transmission request expression of the first type.

25. The computer-readable medium of claim 23, further comprising the steps of:

10 determining whether a replacement data transmission request expression exists as an entry in a lookup table corresponding to the data transmission request expression in the retrieved data;

15 when no replacement data transmission request expression exists in the lookup table, generating a replacement data transmission request expression;

storing the generated replacement data transmission request expression in the lookup table in association with the data transmission request expression in the retrieved data.

20 26. The computer-readable medium of claim 23, wherein the data transmission request expression is a first uniform resource locator (URL) having a first length and the replacement data transmission request expression is a second uniform resource locator (URL) having a second length.

25 27. The computer-readable medium of claim 23, wherein the data is a web page.

28. A computer-readable medium containing instructions that cause a data processing system having a web server with a web page to perform a method for replacing URLs, the method comprising the steps of:

- 5 receiving a first URL of a first type from a client, the first URL corresponding to the web page identified by a URL of a second type;
- replacing the first URL with a replacement URL of the second type;
- retrieving the web page using the replacement URL; and
- sending the retrieved web page to the client.

10 29. A data processing system comprising:

a secondary storage device having a stored data identified by a data transmission request expression of a first type;

15 a memory comprising a computer program that receives a data transmission request expression of a second type from a requestor, the data transmission request expression corresponding to data, replaces the data transmission request expression of the second type with a replacement data transmission request expression of the first type, retrieves the data using the replacement data transmission request expression, and sends the retrieved data to the requestor; and

20 a processing unit that runs the computer program.

25 30. The data processing system of claim 29, wherein the data transmission request expression is a first uniform resource locator (URL) having a first length and the replacement data transmission request expression is a second uniform resource locator (URL) having a second length.

31. The data processing system of claim 29, wherein the data is a web page.

32. A data processing system comprising:
a secondary storage device having a stored data having a data transmission
request expression of a first type;
a memory comprising a computer program that retrieves the data for sending
5 to a requestor, replaces the data transmission request expression in the retrieved
data with a replacement data transmission request expression of a second type, and
sends the retrieved data with the replacement data transmission request expression
to the requestor; and
a processing unit that runs the computer program.

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33. The data processing system of claim 32, wherein the data transmission
request expression is a first uniform resource locator (URL) having a first length and
the replacement data transmission request expression is a second uniform resource
locator (URL) having a second length.

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34. The data processing system of claim 32, wherein the data is a web
page.

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35. A data processing system for replacing data transmission request
expressions, the data processing system comprising:

means for receiving a data transmission request expression of a first type
from a requestor, the data transmission request expression corresponding to data
identified by a data transmission request expression of a second type;

means for replacing the data transmission request expression of the first type
25 with a replacement data transmission request expression of the second type;

means for retrieving the data using the replacement data transmission request
expression; and

means for sending the retrieved data to the requestor.

36. A data processing system for replacing data transmission request expressions, the data processing system comprising:

means for retrieving data with a data transmission request expression of a first type for sending to a requestor;

5 means for replacing the data transmission request expression in the retrieved data with a replacement data transmission request expression of a second type; and

means for sending the retrieved data with the replacement data transmission request expression to the requestor.

10 37. A computer-readable memory device encoded with a data structure and a program that accesses the data structure, the program is by a processor in a system, the data structure having a plurality of entries, each entry comprising:

a data transmission request expression of a first type for retrieving a document identified by a data transmission request expression of a second type, wherein the program replaces the data transmission request expression of the first type with a data transmission request expression of a second type before retrieving the document.